

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (currently amended) A unitized pinion seal for mounting between a first member and a second member rotatable relative to the first member, the unitized pinion seal comprising:

a sleeve ~~portion~~ including a first axially extending ring portion covered with an elastomeric seal layer adapted to mount rotationally fixed to the first member, a radially extending portion extending radially outward from an end of said first axially extending ring portion and a second axially extending ring portion extending axially from a radially outer end of said radially extending portion;

a retainer ~~portion~~ having a first axially extending portion slidably mounted to the second axially extending ring sleeve portion of said sleeve in a radial interference fit and having a second portion adapted to mount to the second member, said first axially extending portion having a smaller diameter than said second portion of said retainer;
and

a seal ~~portion~~ mounted to said retainer ~~portion~~ and engaging said first axially extending ring portion of said sleeve portion;

wherein said retainer ~~portion~~ is disengaged from said sleeve ~~portion~~ during assembly of said sleeve ~~portion~~ on to said first member.

2. (original) The unitized pinion seal of claim 1 wherein the first member is an axle companion flange and the second member is a carrier/bearing cage.

3. (currently amended) The unitized pinion seal of claim 1 ~~A unitized pinion seal for mounting between a first member and a second member rotatable relative to the first member, the unitized pinion seal comprising:~~

~~a sleeve portion adapted to mount rotationally fixed to the first member;~~

~~a seal portion slidably mounted to the sleeve portion in a radial interference fit and including a retainer portion adapted to mount to the second member;~~
and

wherein the sleeve ~~portion~~ is adapted to install to the first member with a radial interference fit such that the radial interference fit of the seal ~~portion~~ to the sleeve ~~portion~~ creates a greater axial retention load than an axial installation load created by the interference fit of the sleeve ~~portion~~ relative to the first member.

4. (currently amended) The unitized pinion seal of claim [[1]] 3 wherein said seal retainer ~~portion~~ includes a first retainer ring ~~mechanism~~ engaging said sleeve ~~member~~ prior to assembly of said unitized pinion seal to said first member.

5. (currently amended) The unitized pinion seal of claim 4, wherein said retainer portion ~~mechanism~~ includes a ~~first~~ second retainer ring engaging [[a]] the seal body and ~~a second retainer ring engaging said sleeve portion prior to assembly of said unitized pinion seal to said first member.~~

6. (currently amended) A method of installing a pinion seal to a carrier/bearing cage and an axle companion flange, the method comprising the steps of:

assembling a sleeve ~~portion~~ of the pinion seal to a retainer ~~seal-portion~~ of the pinion seal with a radial interference fit between cooperating axially extending portions of said sleeve and said retainer, said retainer supporting a seal in engagement with said sleeve;

assembling the pinion seal to the carrier/bearing cage;

partially installing the axle companion flange into the sleeve ~~portion~~ while generating less axial installation force between the axle companion flange and the sleeve ~~portion~~ than an axial retention load created by the interference fit between the ~~seal-portion~~ retainer and the sleeve ~~portion~~; and

further installing the axle companion flange into the sleeve ~~portion~~ while preventing further axial movement of the sleeve ~~portion~~ relative to the companion flange, to thereby overcome the axial retention load and move the sleeve ~~portion~~ axially relative to the seal ~~portion~~ and out of radial interference fit with said retainer.

7. (currently amended) A unitized pinion seal for mounting between a first member and a second member rotatable relative to the first member, the unitized pinion seal comprising:

a sleeve ~~portion~~ adapted to mount rotationally fixed to the first member, said sleeve including an outer surface having a ramp portion disposed between an axially extending forward cylindrical portion and an axially extending rear cylindrical portion, wherein said axially extending forward cylindrical portion has a smaller diameter than said axially extending rear cylindrical portion; and

a seal ~~portion~~ supported by a retainer which includes a first axially extending portion which is mounted to an axially extending surface of the sleeve ~~portion~~ in a radial interference fit and said retainer including a second portion ~~retainer-portion~~ adapted to mount to the second member, said seal ~~portion~~ including a first seal lip engaging said axially extending forward cylindrical portion and a second seal lip engaging said axially extending rear cylindrical portion.